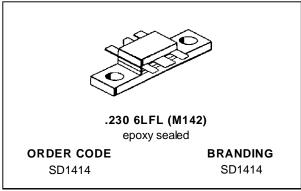


SD1414

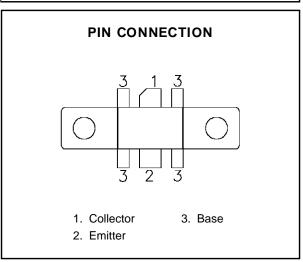
RF & MICROWAVE TRANSISTORS 800-900 MHz APPLICATIONS

- 836 MHz
- 12.5 VOLTS
- COMMON BASE
- Pout = 45 W MIN. WITH 4.7 dB GAIN



DESCRIPTION

The SD1414 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed for amplifier applications in the 806 - 866 MHz frequency range. Internal input matching and common base configuration assure optimum gain and efficiency across the entire frequency band. The SD1414 withstands infinite VSWR at rated power output.



ABSOLUTE MAXIMUM RATINGS $(T_{case} = 25^{\circ}C)$

Symbol	Parameter	Value	Unit	
V _{CBO}	Collector-Base Voltage	36	V	
V _{CEO}	Collector-Emitter Voltage 18		V	
V _{CES}	Collector-Emitter Voltage 36		V	
V _{EBO}	Emitter-Base Voltage	4.0	V	
Ic	Device Current	9.0	А	
P _{DISS}	Power Dissipation	150	W	
TJ	Junction Temperature +200		°C	
T _{STG}	Storage Temperature	– 65 to +150	°C	

THERMAL DATA

R _{TH(j-c)} Junction-Case Thermal Resistance	1.2	°C/W
---	-----	------

March 1993 1/5

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

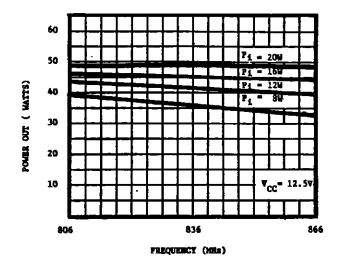
Symbol	Test Conditions	Value			Unit		
	rest Conditions		Min.	Тур.	Max.		
BVces	I _C = 50mA	$V_{BE} = 0V$		36		_	V
BVCEO	I _C = 50mA	$I_B = 0mA$		18	_	_	V
BV _{EBO}	I _E = 10mA	$I_C = 0mA$		4.0	_	_	V
I _{CBO}	V _{CB} = 15V	$I_E = 0mA$				5	mA
h _{FE}	Vce = 5V	Ic = 1A		5		200	_

DYNAMIC

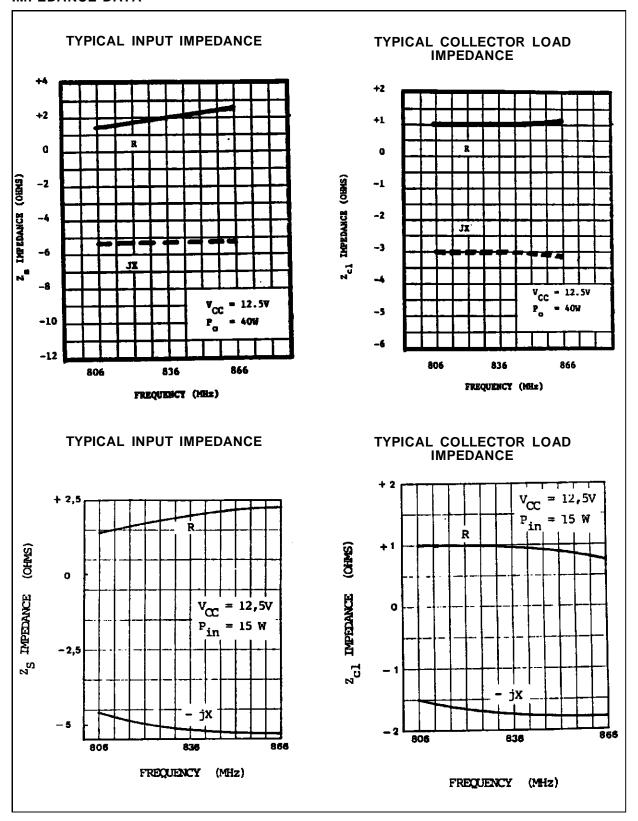
Symbol	Test Conditions			Value			Unit
				Min.	Тур.	Max.	Onit
Pout	f = 836 MHz	$P_{IN} = 15 W$	$V_{CE} = 12.5 \text{ V}$	45	_	_	W
G _P	f = 836 MHz	$P_{IN} = 15 W$	$V_{CE} = 12.5 \text{ V}$	4.7	_	_	dB
Сов	f = 1 MHz	V _{CB} = 12.5 V		_	80	_	pF

TYPICAL PERFORMANCE

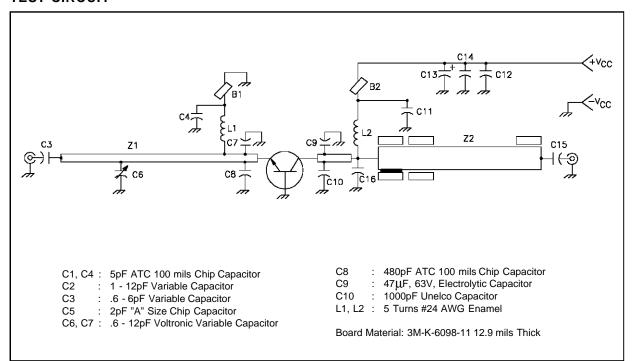
POWER OUTPUT vs FREQUENCY



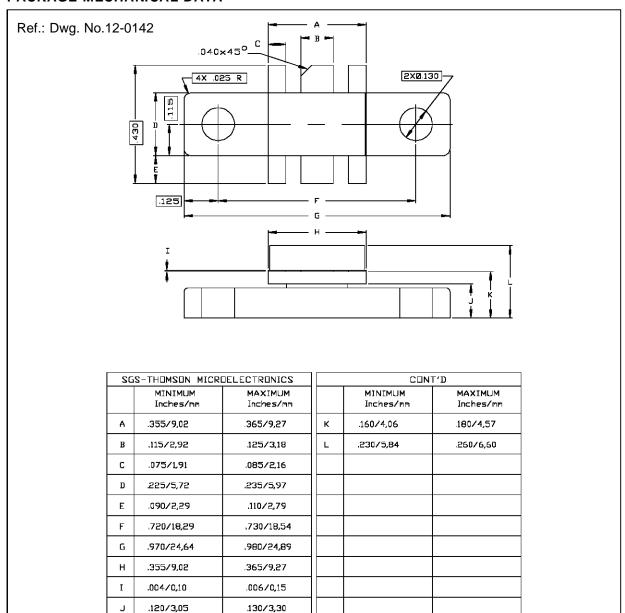
IMPEDANCE DATA



TEST CIRCUIT



PACKAGE MECHANICAL DATA



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsability for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may results from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use ascritical components in life support devices or systems without express written approval of SGS-THOMSON Microelectonics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A

